

age limit although the donor should be free of infectious or malignant disease. The homograft tissue is procured by removing a portion of the temporal bone from the floor of the middle cranial fossa, which includes the middle ear and external auditory canal. Techniques for sterilizing, processing and preserving ear transplant tissue are established and such banked tissue is now available to ear surgeons.

The use of otologic homograft tissue is an attractive alternative because reconstruction using various types of plastics and metals has not been very successful. Extrusion of alloplastic materials in the middle ear is fairly common. The results of homograft ear operations during the past five years are most encouraging. There are no reports of extrusion or rejection of otologic homograft tissue.

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The Cytotoxic Test for Diagnosing Food Allergies

THERE HAVE BEEN a number of efforts to devise and utilize clinical methods for diagnosing food allergens: Rowe, Rinkel, Randolph, Lee and others have made contributions. Nevertheless laboratory methods seemed desirable due to the large amount of time used in the clinical methods, except for skin tests, which carry about 75 percent error. In 1956 Black proposed the use of the cytotoxic reaction for diagnosis of food allergy. This presumably was based on the experiments of Byron H. Wacksman.

We took up the test in 1957, gradually refining the technique so that it is now fairly reliable, the main remaining difficulties being the changing of the patients' diet and the fact that diagnoses are often multiple.

As we do it, the cytotoxic test consists of observing with the microscope the reactions of the blood cells (principally the activity of the neutrophils) to the food extracts in the presence of the patient's serum. All glassware which comes in contact with blood cells must be chemically clean and "silicated." Known accurate amounts of food extracts are used (0.1 mg of the powder per ml of pyrogen-free water overnight, then decanted and further diluted). Rings of vaseline the size of

the coverslips are put three per slide to hold (1) the food extract; (2) the cells and serum, and (3) the coverslips. After an hour the cells are observed and the results recorded for each food.

After 15 years of use on almost 5,000 patients, and 250,000 individual tests, many and even some spectacular cures have been accomplished.

WILLIAM T. K. BRYAN, MD

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Acupuncture and Deafness

INFORMAL CLAIMS from China during the past two years have engendered considerable enthusiasm among patients for using acupuncture to treat sensorineural hearing losses. Experience in the United States is quite limited but of the several attempts at treatment by persons generally recognized as experienced acupuncturists, none have been successful when documented before and after by audiograms. Thus, while we can in no way state with certainty that acupuncture does not help deafness, the present evidence is negative.

It has been argued that such failures probably result from the use of the more traditional acupuncture points instead of newer ones discovered by China's Barefoot Doctors. They may be correct, but since one of these new points requires that a needle be inserted between C₁ and C₂ to a depth of 3 to 4 inches, it probably will be a long time indeed before practitioners of a more conservative bent find out.

F. BLAIR SIMMONS, MD

Diagnostic Uses of Immunoglobulins

OTOLARYNGOLOGISTS AND IMMUNOLOGISTS are investigating the presence, quantity, and function of immunoglobulins in the respiratory tract. These immunoproteins, IgG, IgA, IgM, IgD and IgE, are part of the gamma and beta fractions of serum and are also present on mucous membrane surfaces and in various body fluids. The technique most commonly used to quantitate these immunoglobulins (except IgE) is termed "single radial diffusion," implying incorporation of a monospecific antibody in the agar used for immunodiffusion studies; and serum levels of the immunoglobulins have been determined throughout the human life span. By varying antibody concentration in

the agar, very low levels of the immunoglobulins can be measured routinely, and normal ranges of these proteins in certain body fluids such as nasal secretions have been established. An elevated serum IgM or IgG often signifies a response to an infection. IgE serum elevation may reflect an allergic disorder. IgA serum levels also may vary with host response to infection; but more important, IgA is the major or only immunoglobulin found in respiratory secretions. Individual and circadian variations of respiratory IgA levels have been documented, and this variation may play a role in susceptibility to infection, since a decrease or absence of any immunoglobulin can be associated with increased incidence of infection.

The Ig levels cannot be used alone for a diagnosis of any one disease—except the dysgammaglobulinemias—but may be useful in connection with history, physical examination, and other tests in determining the overall ability of the individual to handle infections.

STEBBINS B. CHANDOR, MD

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Bell's Palsy (Facial Paralysis)

THE DIAGNOSIS Bell's palsy implies, by definition, a non-specific involvement of the peripheral component of the seventh cranial nerve (facial nerve) with paralysis of structures innervated by the facial nerve.

The possibility of a systemic cause must always be considered and an evaluation by the generalist with medical studies as necessary should be performed.

If paralysis is on the basis of truly non-specific cause, medical management is in order. Treatment other than that is supportive with special attention to the eye to prevent corneal disease.

If the patient is seen early (preferably within 48 to 72 hours) steroids are the drug of choice.

Ninety percent of patients will recover spontaneously within three to six weeks. The remaining 10 percent will be left with a residual paresis or paralysis.

Special studies to predict who these 5 percent will be have been advocated and surgical intervention recommended. The studies consist of electri-

cal studies for measurement of electrical nerve potentials.

Responsibility of management and treatment must be that of the primary physician, with consultation for those patients who do not respond to medical management.

SEYMOUR J. BROCKMAN, MD

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Some Aspects of Dizziness

THE SENSE OF MOVEMENT (subjective vertigo) or the actual illusion of objects moving (objective vertigo) is a strong indication that the vestibular system is involved in the abnormality. On the other hand, unsteadiness, not as neatly defined as true vertigo, is not commonly related to the vestibular system. An otoneurologic evaluation of the patient complaining of vertigo necessarily includes a detailed history regarding: (1) the onset of the symptoms, (2) their character, duration, and mode of cessation, (3) whether they are single episodes or repeated, and (4) associated symptoms such as tinnitus, hearing loss, syncope, and palpitations. The examination itself must include evaluation of the cranial nerves, extraocular movements, cerebellar tests (including Romberg, modified Romberg, and pastpointing), tests for dysdiadochokinesis, vestibulospinal tract tests (such as position maintenance of extended arms with eyes closed), and electronystagmographic (ENG) analysis of eye movements. The electronystagmographic analysis of the eye movements should include: (1) *pendular tracking*, which can give evidence of abnormalities at the level of the oculomotor nuclei, (2) *calibration*, which not only allows quantitation of the ENG tracings but its qualitative pattern can give clues as to a peripheral or central nature of the disorder, (3) *optokinetic stimulation* which when recorded as an isolated abnormality is supportive of a cortical lesion, and (4) *positional testing* with particular attention to latency of nystagmus, associated vertigo, and the duration of the positionally provoked nystagmus for more than two minutes. *Rotational testing* is not routinely used in many laboratories but holds promise in the future perhaps even in differentiating between sites of peripheral lesions. *Caloric testing* using the Hallpike method is usually modified so that electronystagmographic analysis is obtainable with stimulation and recording in darkness and with